

Application No.: 10/087,116

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Docket No.: 146712006500

REMARKS

This amendment is submitted in response to the Office Action dated March 25, 2004. Reconsideration and allowance of the claims is requested for the reasons presented below.

OBJECTIONS TO THE SPECIFICATION

The Specification stands objected to by the Examiner. Specifically, the Examiner submits that the meaning of the acronym "FDB" in the Abstract was not provided. In response, the Applicant has amended the Abstract, in accordance with the Examiner's suggestion, to define "FDB" as a "fluid dynamic bearing".

The Applicants submit that the Specification, as amended, is in acceptable condition. Thus, the Applicants respectfully request that the objection to the Specification be withdrawn.

OBJECTIONS TO THE DRAWINGS**1. FIG. 1**

FIG. 1 stands objected to. Specifically, the Examiner submits that FIG. 1 does not include labels for the axes of the illustrated graph. In response, the Applicants have amended paragraph [0006] of the Specification in order to more clearly describe aspects of the invention.

In particular, paragraph [0006] has been amended to define " $1/k$ " as "the inverse of stiffness". The y-axis of the graph is labeled as " $1/k$ ". Paragraph [0006] has also been amended to define " f " as the "frequency of rotation". The x-axis of the graph is labeled " f ". The Applicants submit that no new matter was entered as a result of this amendment.

Thus, the Applicants submit that, in light of the clarification presented in paragraph [0006], FIG. 1 is in acceptable form. Accordingly, the Applicants respectfully request that the objection to FIG. 1 be withdrawn.

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2. FIG. 2

FIG. 2 stands objected to for failing to comply with 37 C.F.R. §1.84(p)(5). In response, the Applicants have amended FIG. 2B to more clearly illustrate aspects of the present invention.

Specifically, the reference numeral "52" has been added to indicate a second clamp. In addition, the lead line for the reference numeral "60" has been amended in order to more clearly indicate a shaft. These amendments have been made in accordance with the Examiner's suggestions and in accordance with the description of FIG. 2 at paragraphs [0020]-[0024] of the Specification.

Thus, the Applicants submit that FIG. 2, as amended, is in acceptable form. Accordingly, the Applicants respectfully request that the objection under 37 C.F.R. §1.84(p)(5) be withdrawn.

3. FIGS. 5 and 6

The drawings stand objected to under 37 C.F.R. §1.83(a). In response, the Applicants have added new FIGS. 5 and 6 in order to more clearly illustrate aspects of the present invention.

Specifically, FIG. 5 is a flow chart illustrating a method for increasing bearing stiffness by reducing the temperature of the disk drive. This amendment is made in accordance with paragraph [0030] of the Specification.

FIG. 6 is a flow chart illustrating a method for increasing bearing stiffness by increasing the rotational velocity of the disk drive motor. This amendment is made in accordance with paragraph [0031] of the Specification. The Applicants submit that no new matter has been introduced by these amendments.

Thus, the Applicants submit that new FIGS. 5 and 6, fully satisfy the requirement of 37 C.F.R. §1.83(a). Accordingly, the Applicants respectfully request that the objection under 37 C.F.R. §1.83(a) be withdrawn.

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CLAIM REJECTIONS**A. 35 U.S.C. §112: Claims 4, 5, and 13****1. Claim 4**

Claims 4 stands rejected under 35 U.S.C. §112. In response, the Applicants have added new FIG. 6 in order to more clearly illustrate aspects of the present invention. As described above with respect to the objection to the drawings, FIG. 6 illustrates a method for increasing bearing stiffness by increasing the rotational velocity of the disk drive motor, as positively claimed by claim 4.

In light of the foregoing amendment, the Applicant respectfully submits that claim 4, as amended, is allowable under 35 U.S.C. §112. Accordingly, the Applicants respectfully request that the rejection of claim 4 be withdrawn.

2. Claims 5 and 13

Claims 5 and 13 stand rejected under 35 U.S.C. §112. In response, the Applicants have added new FIG. 5 in order to more clearly illustrate aspects of the present invention. As described above with respect to the objection to the drawings, FIG. 5 illustrates a method for increasing bearing stiffness by reducing the temperature of the disk drive, as positively claimed by claims 5. In addition, claim 13 has been cancelled and rewritten into independent form as new claim 21. New claim 21 also recites the method illustrated in FIG. 5.

In light of the foregoing amendments, the Applicants respectfully submit that claim 5 and new claim 21 are allowable under 35 U.S.C. §112. Accordingly, the Applicants respectfully request that the rejection of claims 5 and 13 be withdrawn.

B. 35 U.S.C. §103: Claims 8-10 and 14**1. Claims 8-10**

Claims 8-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over United States Patent No. 6,505,968, issued January 14, 2003 to *Fleury et al.* (hereinafter referred to as

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"*Fleury*"). In response, the Applicants have amended independent claim 8, from which claims 9-10 depend, in order to more clearly recite aspects of the invention.

Fleury does not teach, show or suggest all of the limitations of independent claim 8, as amended. Specifically, *Fleury* does not disclose an apparatus for increasing the stiffness of an FDB motor during servo write that includes a means for applying a compressive load to the bearings, as recited by amended claim 8. By contrast, *Fleury* teaches minimizing a gap using an expanding piezoelectric member embedded in a motor component such as the shaft, the hub or a counter plate.

Thus, the Applicants respectfully submit that claim 8, as amended, and claims 9-10 that depend therefrom, are not anticipated by *Fleury*. Accordingly, the Applicants respectfully request that the rejection of claims 8-10 under 35 U.S.C. §103(a) be withdrawn.

2. Claim 14

Claim 14 stands rejected under 35 U.S.C. §103(a) as being unpatentable over. In response, the Applicant has amended independent claim 14 in order to more clearly recite aspects of the invention.

Fleury does not teach, show or suggest all of the limitations of independent claim 14, as amended. Specifically, *Fleury* does not disclose an apparatus for increasing the stiffness of an FDB motor during servo write that includes a releasable clamp abutting said two ends of a shaft that is adapted for applying a compressive load to the shaft, as recited by amended claim 14.

Thus, the Applicant respectfully submit that independent claim 14, as amended, is not anticipated by *Fleury*. Accordingly, the Applicants respectfully request that the rejection of claim 14 under 35 U.S.C. §103(a) be withdrawn.

C. 35 U.S.C. §103: Claims 19 and 20

Claims 19 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Fleury* in view of United States Patent No. 5,969,448, issued October 19, 1999 to *Liu et al* (hereinafter referred to as "*Liu*"). In response, the Applicants have amended independent claim 14, from which

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claims 19 and 20 depend, as described above in order to more clearly recite aspects of the present invention.

As discussed above, *Fleury* does not teach, show or suggest an apparatus for increasing the stiffness of an FDB motor during servo write that includes a releasable clamp abutting said two ends of a shaft that is adapted for applying a compressive load to the shaft, as recited by independent claim 14. *Liu* does not bridge this gap in the teachings of *Fleury*. Thus, even if *Fleury* could be combined with *Liu*, the resultant structure would at most yield a piezoelectric member mounted to a shaft and adapted for expanding a conical bearing. Neither *Fleury* nor *Liu* suggests the applying a compressive force to any component of the motor, as positively recited by claim 14.

Thus, the Applicants respectfully submit that amended claim 14, and claims 19 and 20 that depend therefrom, are not made obvious by *Fleury* in view of *Liu*. Accordingly, the Applicants respectfully request that the rejection of claims 19 and 20 under 5 U.S.C. §103(a) be withdrawn.

ALLOWABLE SUBJECT MATTER

The Applicants thank the Examiner for his comments regarding the allowability of claims 1-3, 6-7 and 18. In addition, the Applicants thank the Examiner for his comments regarding claims 11-12 and 15-17, if rewritten to include all of the limitations of the base and intervening claims. However, in light of the arguments presented above, the Applicants respectfully submit that claims 11-12 and 15-17 are allowable as they stand.

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Conclusion

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue. If it is determined that a telephone conference would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the event the U.S. Patent and Trademark office determines that an extension and/or other relief is required, applicant petitions for any required relief including extensions of time and authorizes the Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to Deposit Account No. 03-1952 referencing docket no. 146712006500. However, the Commissioner is not authorized to charge the cost of the issue fee to the Deposit Account.

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Respectfully submitted,

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